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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,632	02/18/2004	Theodore R. Zeigler	000002-001	9087
44012	7590	08/15/2007		
WRB-IP LLP 1217 KING STREET ALEXANDRIA, VA 22314			EXAMINER BARTOSIK, ANTHONY N	
			ART UNIT 3609	PAPER NUMBER
			MAIL DATE 08/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/779,632

Applicant(s)

ZEIGLER, THEODORE R.

Examiner

Anthony N. Bartosik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20-22 is/are rejected.
- 7) ☐ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/18/2004</u> .   | 6) <input type="checkbox"/> Other: _____                          |

***DETAILED ACTION***

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show reference numerals 21, 31a, 31b, 43c, 43d and 57b as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "51b" of Figure 1A has been used to designate both

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"connection point" and "fifth hubs." Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

1. Claim 6 is objected to because of the following informalities: the element "a connection point" makes the claim indefinite, as there are multiple connections points along the structure. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 1-16 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trochman (US 4,193,414) in view of Price (US 2003/0164185 A1) and Grillis (US 2002/0066239).

3. In Re claim 1, Figure 4 and 6 of Trochman teach a first hub (32); at least two struts (21b, 22a) pivotably connected at first ends thereof to the first hub (32) and movable relative to each another between a folded position and an expanded position; a tension member (12c) adapted to limit pivotable movement of the at least two struts such that, when in the expanded position, the at least two struts define an angle of less than 180.degree. Examiner notes that the tension member of Trochman does not disclose that it is used for the above stated purpose; it is however, capable of being adapted to function as described above. Trochman fails to teach a locking hub. Price does however teach at least two locking struts (21a, 22b) pivotably connected at second ends thereof, to connection points on respective ones of the at least two struts (21b, 22a). Figures 4 and 5 of Price teach the use of a locking hub in collapsible structures for locking member connections. It would have been obvious to one skilled in the art at the time of the invention to modify the connection point (30) of Trochman with the locking hub of Price in order to lock the strut connections.

4. In Re claim 2, Figure 4 of Trochman discloses the tension member including a wire.

5. In Re claim 3, Column 6 Lines 44-50 of Trochman disclose wire is attached to the at least two struts. Since applicant has not specified the location of the attached wire, examiner is considering the wire attached to the eyebolt in Trochman to also be

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attached to "the at least two struts" by the fact that the entire structure is rigidly connected.

6. In Re claim 4, Figure 4 of Trochman discloses a tension member including a cover (12) attached to the collapsible structure.

7. In Re claim 5, Figure 4 of Trochman discloses a tension member including a base (17, 18) to which the collapsible structure is attached.

8. In Re claim 6, Trochman discloses a distance between a connection point and the first hub for any one the at least two struts is greater than a length of a respective one of the at least two locking struts. Examiner notes that as written, "a connection point" may be any connection point (30 Fig. 6) on the structure of Trochman, thereby resulting in the claimed limitation:

9. In Re claim 7, Trochman discloses a distance between the connection point and the first hub for the one of the at least two struts multiplied by a cosine of an angle defined by a plane in which the connection points of all of the at least two struts lie and the one of the at least two struts is less than the length of the respective one of the at least two locking struts.

10. In Re claim 8, Trochman discloses a distance between the connection point and the first hub for the one of the at least two struts multiplied by a cosine of an angle defined by a plane in which the connection points of all of the at least two struts lie and the one of the at least two struts is less than the length of the respective one of the at least two locking struts.

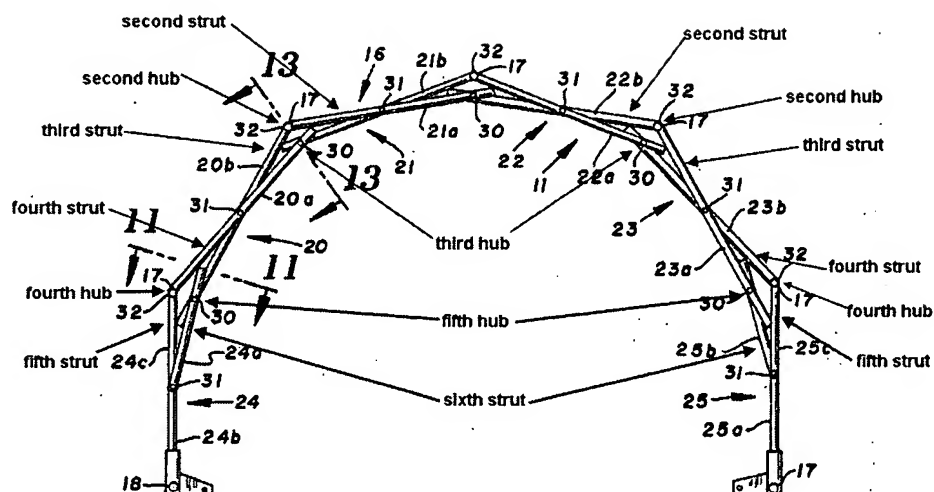
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11. In Re claim 9, the combination of references Trochman and Price teach locking struts that are each **adapted** to pivot through an angle greater than 90.degrees relative to the locking hub when the locking struts are moved between a folded position and a locked position.

12. In Re claim 10, Figure 6 of Trochman discloses at least three struts.

13. In Re claim 11, Figure 6 of Trochman discloses at least four struts.

14. In Re claim 12, Figure 6 of Trochman (see modified figure 6 below) discloses at least two second struts pivotably connected at first ends thereof to respective ones of the at least two struts, at least two second hubs, second ends of the at least two second struts being pivotably connected to respective ones of the at least two second hubs, at least two third struts, first ends of the at least two third struts being pivotably connected to respective ones of the at least two second hubs, at least two third hubs, second ends of the at least two first struts being pivotably connected to respective ones of the at least two third hubs, at least two fourth struts, first ends of the at least two fourth struts being pivotably connected to respective ones of the at least two third hubs and being pivotably connected to respective ones of the at least two third struts.

**FIG. 6**

15. In Re claim 13, the combination of references Trochman and Price teach at least two first struts and the at least two fourth struts are each **adapted** to pivot through an angle greater than 90 degrees when the at least two first struts and the at least two fourth struts pivot relative to respective ones of the at least two third hubs between a folded position and a locked position.

16. In Re claim 14, Figures 4 and 6 of Trochman disclose at least two second struts that are pivotably connected to respective ones of the at least two struts at the connection points on respective ones of the at least two struts.

17. In Re claim 15, Figures 4 and 6 of Trochman disclose at least two second struts are pivotably connected to respective ones of the at least two struts at points between the connection points and the second ends of respective ones of the at least two struts.

18. In Re claim 16, the combination of Trochman and Price has been discussed above and disclose the limitations from which claim 12 depends. Examiner's interpretation of the structure set forth in claim 12 is such that the structure in claim 1 is



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uplicated and then attached at a central hub, thereby creating a collapsible structure square in shape. Figure 1 of Price teaches a square shaped collapsible structure utilizing a first hub. It would have been obvious to one skilled in the art at the time of the invention to modify the shape of Trochman to include a square structure by substituting the first hub (32) of Trochman with the first hub (210) of Price in order to provide a more rigid structure.

19. In Re claim 20, Figure 6 of Trochman discloses the limitations of claim 20; see modified Figure 6 of Trochman above.

20. In Re claim 21, Figure 6 of Trochman discloses at least two third struts and the at least two sixth struts being each adapted to pivot through an angle greater than 90 degrees when the at least two third struts and the at least two sixth struts pivot relative to respective ones of the at least two fifth hubs between a folded position and a locked position.

21. In Re claim 22, Figure 4 and 5 of Price disclose a stop (236) for preventing the locking hub from moving beyond a locking position in the expanded position.

### ***Allowable Subject Matter***

1. Claims 17-19 are objected to as being dependent upon a rejected base claim, but based on the prior art of record would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***


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Prior art made of record but not relied upon is considered pertinent to applicant's disclosure. Chen et al. (US 6,941,704 B2), Beaulieu (US 4,156,433), Esser et al. (US 5,943,837), Sample et al. (US 2003/0074845 A1), Gillis (US 2002/0066239 A1). Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony N. Bartosik whose telephone number is 2723600. The examiner can normally be reached on M-F 7:30-5:00; Alter Fri Off E.D.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Batson Victor can be reached on 571-272-6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB  
7/2007

  
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